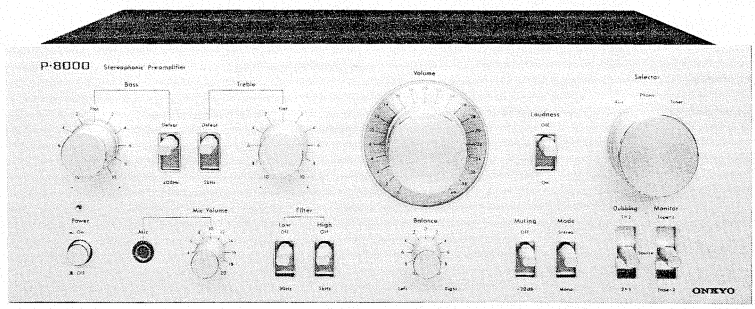
ONKYO® SERVICE MANUAL

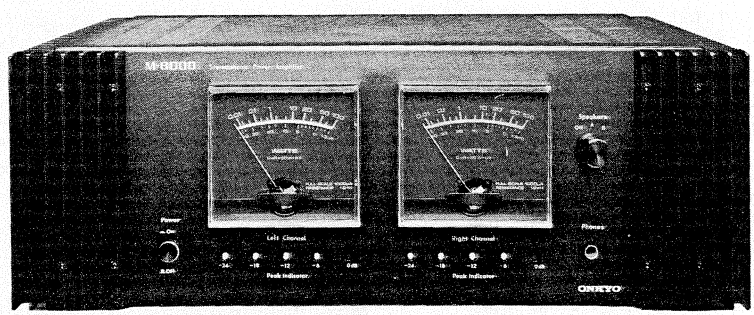
STEREO PREAMPLIFIER

MODEL P-8000



STEREO POWER AMPLIFIER

MODEL M-8000



ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

Model P-8000

Total Harmonic Distortion:	0.01% at rated output	
Rated Output Voltage:	1 V/50 kohms load	
Outputs:	OUTPUT —1 and —2	
	TAPE REC OUT —1 and —2	
	AC OUTLET (UNSWITCHED X 3)	
Inputs:	PHONO	
	TUNER	
	AUX	
	TAPE PLAY —1 and —2	
	MIC	
Sensitivity & Impedance:	PHONO:	3.5 mV/50 kohms
	TUNER:	150 mV/50 kohms
	AUX:	150 mV/50 kohms
	TAPE PLAY:	150 mV/50 kohms
	TAPE REC:	150 mV/2.2 kohms (PHONO)
	MIC:	8 mV/50 kohms
Intermodulation Dist. :	0.01% at rated output	
RIAA Deviation:	±0.5 dB, 30 – 15,000 Hz	
Phono Overload:	250 mV RMS at 1 kHz, THD 0.1%	
	1250 mV RMS at 10 kHz, THD 0.1%	
Tone Controls:	BASS:	±9 dB at 100 Hz
	TREBLE:	±9 dB at 10 kHz
Loudness Switch:	+6 dB at 70 Hz	
	+4.5 dB at 10 kHz	
High Filter:	5 kHz 6 dB/oct.	
Low Filter:	30 Hz 6 dB/oct.	
Muting:	—20 dB	
Signal to Noise Ratio:	PHONO:	76 dB (IHF A NETWORK)
	TUNER/AUX/PLAY:	96 dB (IHF A NETWORK)
	MIC:	84 dB (IHF A NETWORK)
Semiconductors:	5 ICs, 2 FETs, 5 Transistors, 4 Diodes	
Power Supply Rating:	ac 220 volts 50/60 Hz	
Dimensions:	418 W x 150 H x 305 D mm.	
	16-1/2" x 5-15/16" x 12"	
Weight:	4.5 kg (9.9 lbs)	

Specifications and features are subject to change without notice.

Model M-8000

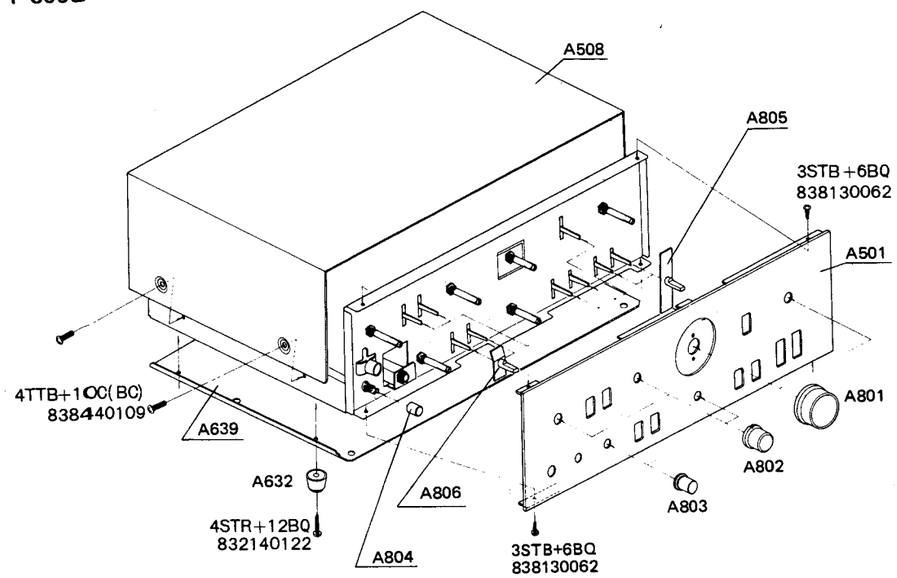
Dynamic Output Power:	160 watts total at 8 ohms, 0.1% THD.
Continuous Output Power:	55 watts per channel, at 8 ohms, both channels driven, 1 kHz, 0.1% THD.
	50 watts per channel, at 8 ohms, both channels driven, 20 - 20,000 Hz, 0.1% THD.
Total Harmonic Distortion:	0.1% at rated power
	0.02% at 1 watt output
IM Distortion:	0.1% at rated power
Damping Factor:	50 at 8 ohms
Frequency Response:	+0, —1.5 dB at 4 Hz – 100 kHz
Power Bandwidth:	5 – 30,000 Hz (0.1% THD, —3 dB)
Input Sensitivity and Impedance:	1 V/50 kohms
Signal to Noise Ratio:	110 dB (IHF A NETWORK)
Power Meters:	0 dB = 50 watts/8 ohms 0.01 – 100 watts
Peak Power Indicators:	0 dB = 50 watts/8 ohms
	—24 dB, —18 dB, —12 dB, —6 dB, 0 dB
Outputs:	SPEAKER A and B
	HEADPHONE
	TAPE REC OUT (for MIC MIXING)
	AC OUTLET x 1 (UNSWITCHED)
Input:	MAIN INPUT
Semiconductors:	2 ICs, 17 Transistors, 28 Diodes
Power Supply Rating:	ac 220 volts 50/60 Hz
Dimensions:	418 W x 152 H x 274 D mm
	16-1/2" x 6" x 10-13/16"
Weight:	10 kg (22 lbs)

Specifications and features are subject to change without notice.

P－8000
M－8000

EXPLODED VIEW

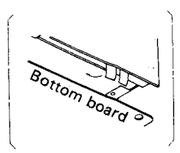
Model P-8000



PARTS LIST

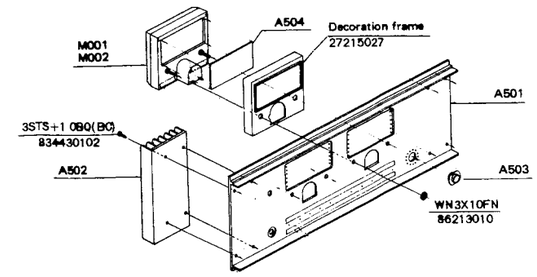
CIRCUIT NO.	PARTS NO.	DESCRIPTION
	127995551	NAAF-455 (1), Preampli p.c.b.
	127995552	NAAF-455 (2), Loudness p.c.b.
	127995553	NAAF-455 (3), Tone ampli. p.c.b.
PL001	210009	RM5-12V30-A, Power indicator lamp
T901	230262	NPT-633G, Power transformer
C002	3500052	PME271Y510, IS capacitor
S1	25030067	NRS-133-35F, Source selector switch
S11	25035064	NPS-121-L29P, Power switch
P001	25045022	NPJ-6PRBL01, Phono, Tuner/Aux. input terminal
P002, P003	25045025	NPJ-4PRBL03, Tape input/output terminal
P004	25045025	NPJ-4PRBL03, Pre. output terminal
P005	25060008	Ground terminal
P006	250051	HJ-631S-H2, Mic. jack
P007	25050020	NSTC-6P02, AC outlet
P008	253083	AS-CEE, Power supply cord
	25065018	Stopper for P008
A015	27120134	Back panel
A501	27210142	Front panel
A502	27267021A	Power switch guide
A503	28165019	Facet
A504	27262025	Plate
A508	28184026	Ampli. cover
A509	28140024	Cushion for A508
A510	838440109	4TTB+10C(BC), Screw for A508
A801	28320356	Volume knob
A802	28320357	Tone knob
A803	28320358	Balance knob
A804	28320326	Power knob
A805	28320360	Lever knob
A806	28320361	Lever knob
	27110050	Front bracket
	27115001G	Side bracket
A631	27170032A	Bottom board
A632	280379	Leg
A633	832140122	4STR+12BQ, Tapping screw for A632
A634	831130082	3STW+8BQ, Tapping screw for A631

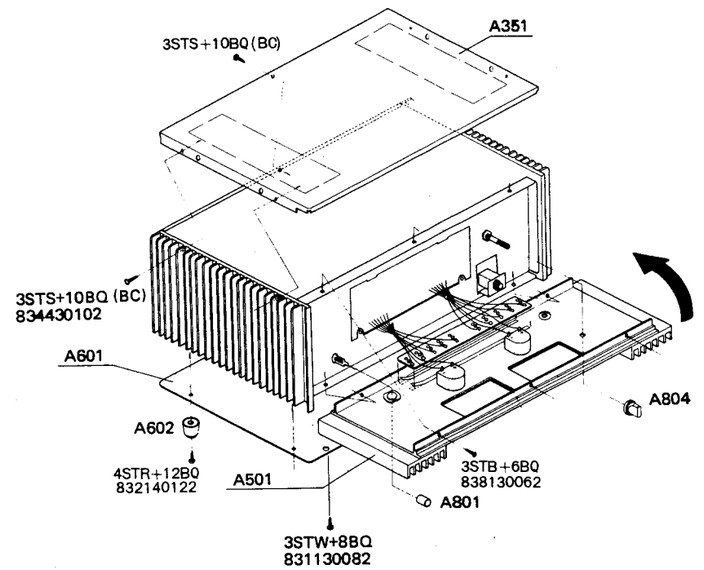
Caution: Push the feather of lever knob in the direction of arrow mark when install the bottom board.



EXPLODED VIEW

Model M-8000



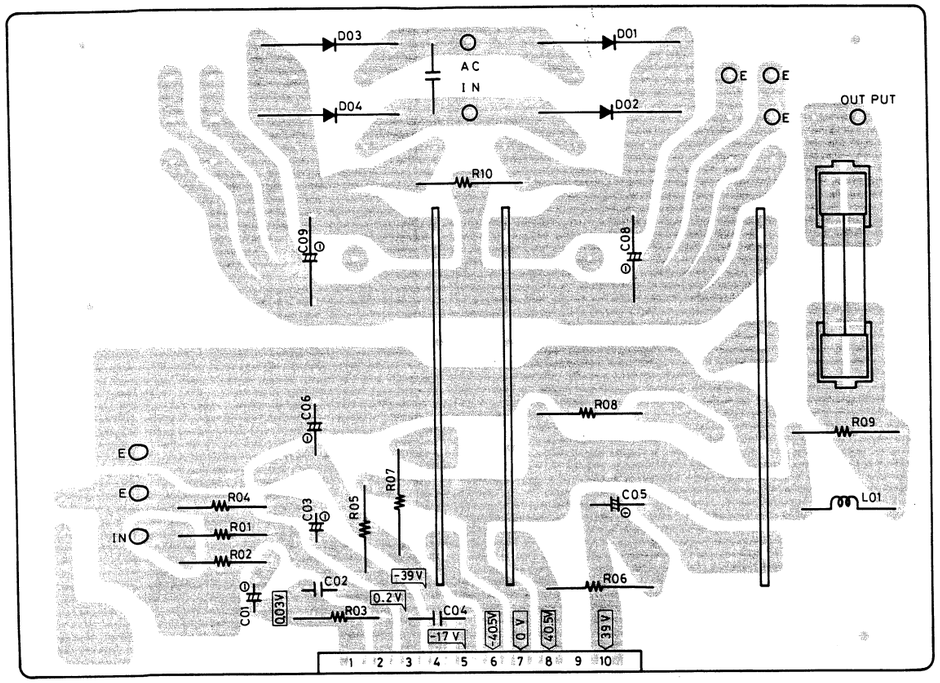


PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	12739563	NAMA-463, Power ampli. p.c.b.
	12739564	NADIP-464, Protection, Peak/Meter circuit p.c.b.
	12739565	NADIS-465, Peak indicator L.E.D. p.c.b.
	12739566	NAPL-466, Lamp p.c.b.
Q001, Q002	222015	STK-084, Power ampli. IC
T001, T002	230263	NPT-636G, Power transformer
C001	3500052	PME271Y510, IS capacitor
R001, R002	441723314	330Ω, 2W, Metal oxide film resistor
S001	25035035	NPS-111-L01P, Power switch
S002	25030079	NRS-123-35Y, Speaker selector switch
P001	25045025	NPJ-4PRBL03, Input/Output terminal
P003, P004	25060026	NTM-4PRMN03, Speaker terminal
P005	250078	XG-7716, Stereo headphone jack
P008	250010A	MD-10, AC outlet
	253083	AS-CEE, Power supply cord
	25065018	Stopper for power supply cord
M001, M002	243081	NIND-1000S81, VU meter
F001a	250143	Fuseholder
F001	252056	3A-TL, Fuse
A001	27110054	Front bracket
A003	27250014	Lamp case
A015	27160032	Radiator (R)
A016	27160033	Radiator (L)
A017	27130118A	PC bracket
A024	27120133	Back panel
A351	28184036	Top cover
A501	12739121	Front panel ass'y
A502	27160034	Radiator (S)
A503	27215027	End cap
A504	28133006	Back plate
A505	27267023	Power switch guide
A601	27170038	Bottom board
A602	280379	Leg
A801	28320218	Power switch knob
A804	8320233	Speaker selector knob

P—8000
M—8000

POWER AMPLI. PC BOARD VIEW FROM BOTTOM SIDE



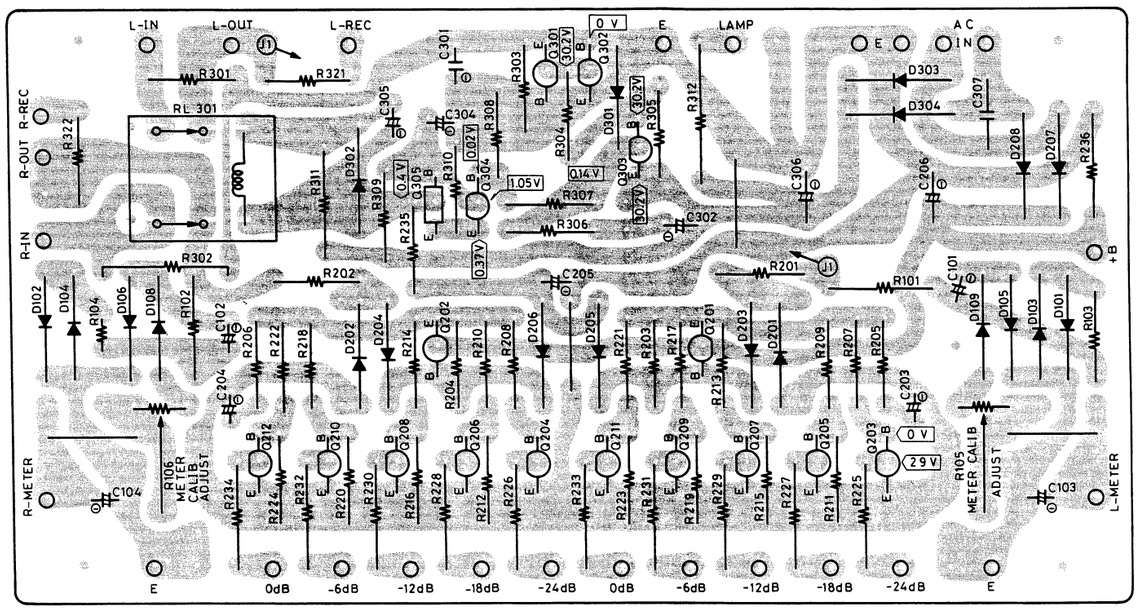
POWER AMPLI. PC BOARD – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	ICs	
Q001, Q002	222015	STK-084
	Diodes	
D01–D04	223845	GP-20D
	Coil	
L01	231001	S-1.3B
	Capacitors	
C01	392860477	4.7μF, 35V, LL
C03	352744701	47μF, 16V, Elect.
C05, C06	352782211	220μF, 50V, Elect.
C08, C09	3504106	3,300μF, 50V, Elect.
	Resistors	
R06, R07	441621014	100Ω, 1W, Metal oxide film resistor
R08	451630474	4.7Ω, 2W, Metal
R09	451630684	6.8Ω, 1W, Metal
R10	441621034	10kΩ, 1W, Metal oxide film resistor
	Fuse	
F003, F004	252020	5A-T
	Fuseholder	
	250113	SN5051
	Ground plate	
	27300087	

PROTECTION, PEAK/METER CIRCUIT PC BOARD – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Transistors	
Q201–Q212 Q301,Q302, Q304	2210743	2SC945(L) (P)
Q303	2210803	2SA733(P)
Q305	2210863	2SC1212AWT(C)
	Diodes	
D101–D104	223119	1S1588
D105–D108 D203, D204	223103	1N60
D201, D202, D205, D206, D301	223106	1S1554

METER AND PROTECTION CIRCUIT PC BOARD VIEW FROM BOTTOM SIDE



CIRCUIT NO.	PARTS NO.	DESCRIPTION
D207, D208 D302–D304	223848	GP-08B
	Capacitors	
C101, C102	352741001	10μF, 16V, Elect.
C103, C104	352733301	33μF, 10V, Elect.
C203, C204	352780221	2.2μF, 50V, Elect.
C205	352780331	3.3μF, 50V, Elect.
C206	352722211	220μF, 6.3V, Elect.
C301	352722211	220μF, 6.3V, Elect.
C302	352782201	22μF, 50V, Elect.
C304, C305	352780331	3.3μF, 50V, Elect.
C306	352764711	470μF, 35V, Elect.
	Resistors	
R101, R102	441621024	1kΩ, 1W, Metal oxide film
R105, R106	5225018	N10HR1KBC, Semi-fixed
R236	441621524	1.5kΩ, 1W, Metal oxide film
R311	441621814	180Ω, 1W, Metal oxide
R312	441724304	43Ω, 2W, Metal oxide film
	Relay	
RL301	25065040	NRL-2P5A-DC24-03

PEAK INDICATOR PC BOARD – PARTS LIST

	L.E.D.	
D401–D410	225010	SEL103R

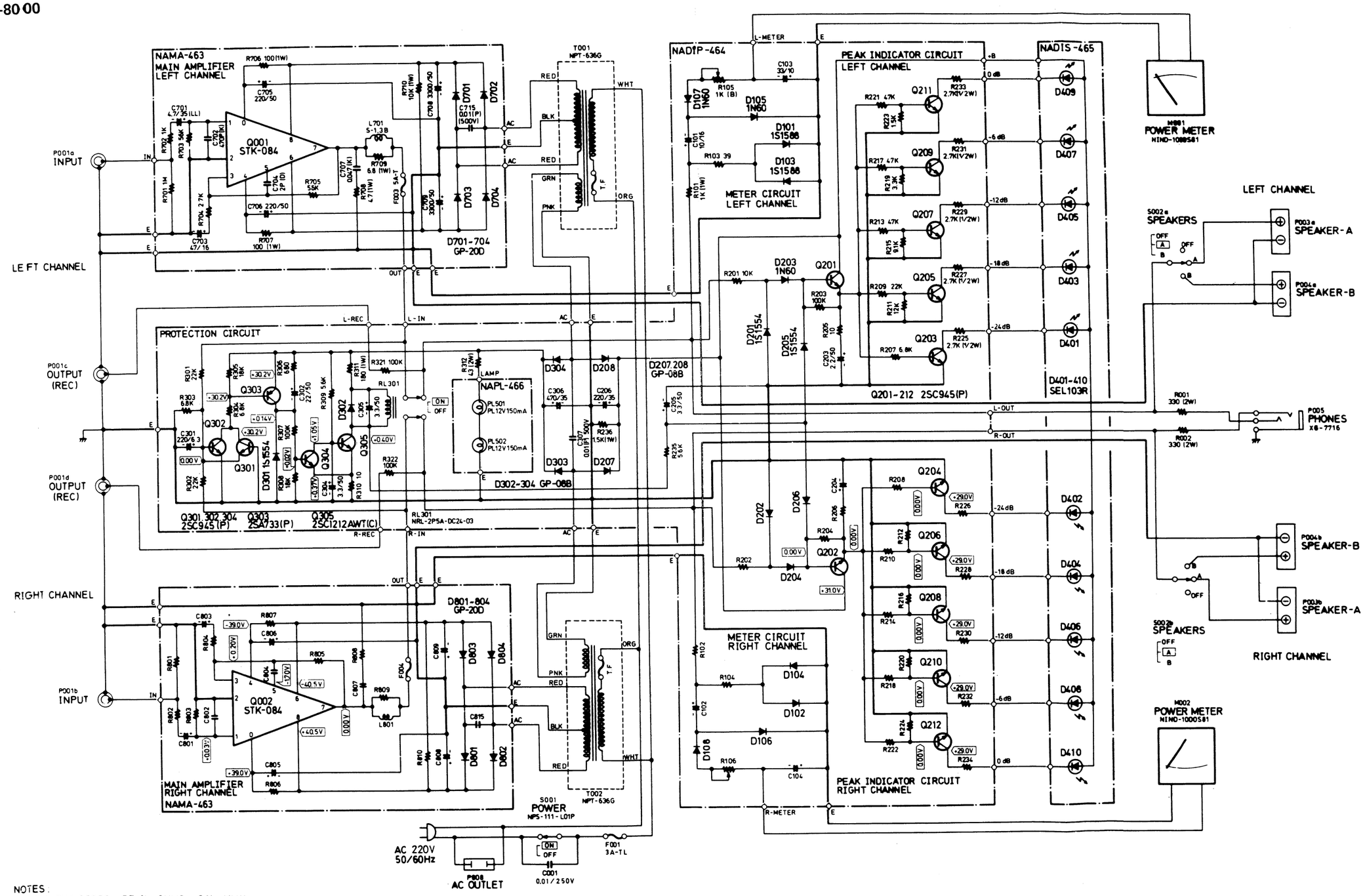
LAMP PC BOARD – PARTS LIST

PL501,PL502	210038	150mA, 12V, Lamp

P−8000
M−8000

SCHEMATIC DIAGRAM

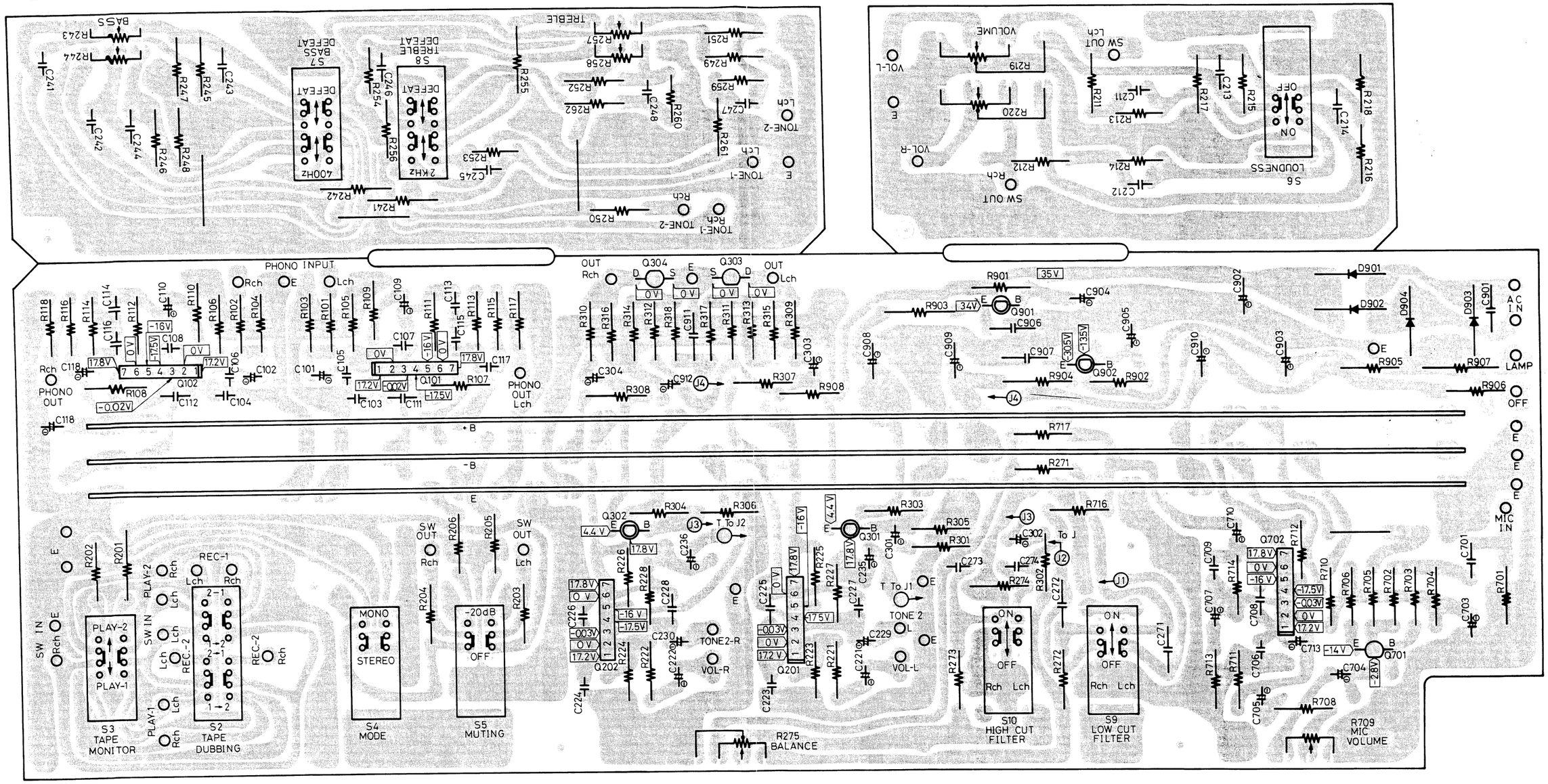
MODEL M-8000



NOTES:
- ALL RESISTORS ARE IN OHMS ±5% ¼W.
- ALL CAPACITORS ARE IN μF 50V.
- ALL ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN μF/WV.
- DC VOLTAGES (▭V) ARE MEASURED WITH C.T (20KΩ/V) TO CHASSIS AT NO SIGNAL APPLIED.
- UNLESS OTHERWISE SPECIFIED.

P—8000
M—8000

PREAMPLI. PC BOARD VIEW FROM BOTTOM SIDE



PREAMPLI. PC BOARD — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	ICs	
Q101, Q102	222422	TA-7136P(ONK)
Q201, Q202, Q702	222423	TA-7136P
	Transistors	
Q301, Q302	2210675	2SC1681(GR)
Q303, Q304	2211293	2SK68(M), F.E.T.
Q701	2210136	2SC1312-31(F)
Q901	2210064	2SC734(Y)
Q902	2210074	2SA561(Y)
	Diodes	
D901—D904	223848	GP-08B

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Capacitors	
C101, C102	352780101	1μF, 50V, Elect.
C109, C110	352721011	100μF, 6.3V, Elect.
C117, C118 C221, C222	392884797	0.47μF, 50V, LL
C229, C230	352780101	1μF, 50V, Elect.
C271, C272	374121045	0.1μF, 50V, DE
C301, C302	392884797	0.47μF, 50V, LL
C303, C304	390980107	1μF, 50V, LM
C701	374125637	0.056μF, 50V, DE
C703	352754701	47μF, 25V, LL
C704	392884797	0.47μF, 50V, LL
C705	352784791	0.47μF, 50V, Elect.
C707	352780331	3.3μF, 50V, Elect.
C710	352733301	33μF, 10V, Elect.
C902, C903	352782211	220μF, 50V. Elect.
C904, C905	352781011	100μF, 50V. Elect.
C908, C909	352751021	1,000μF, 25V, Elect.
C910	352763311	330μF, 35V. Elect.
C912	352780471	4.7μF, 50V, Elect.
	Resistors	
R275, R276	5104056	N16RL250KWTP35, Balance control variable
R707	5104024	N16RL100KA35, Mic. level control variable
R907	441628214	820Ω, 1W, Metal oxide film

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Switches	
S2	25040042	NLS-143-2715-L18, Tape dubbing
S3	25040041	NLS-123-2715-L17, Tape monitor
S4, S5, S9, S10	25040026	NLS-122-2715-L04, Mode, Muting, Low-cut/High-cut filter
	27300083	Plate

LOUDNESS CIRCUIT PC BOARD-PARTS LIST

	Capacitor	
R213, R214	374123935	0.039μF, 50V, DE
	Resistor	
R219, R220	5172045	N24RGL41C250KBTP35, Volume control variable
	Switch	
S6	25040024	NLS-122-2715-L01, Loudness

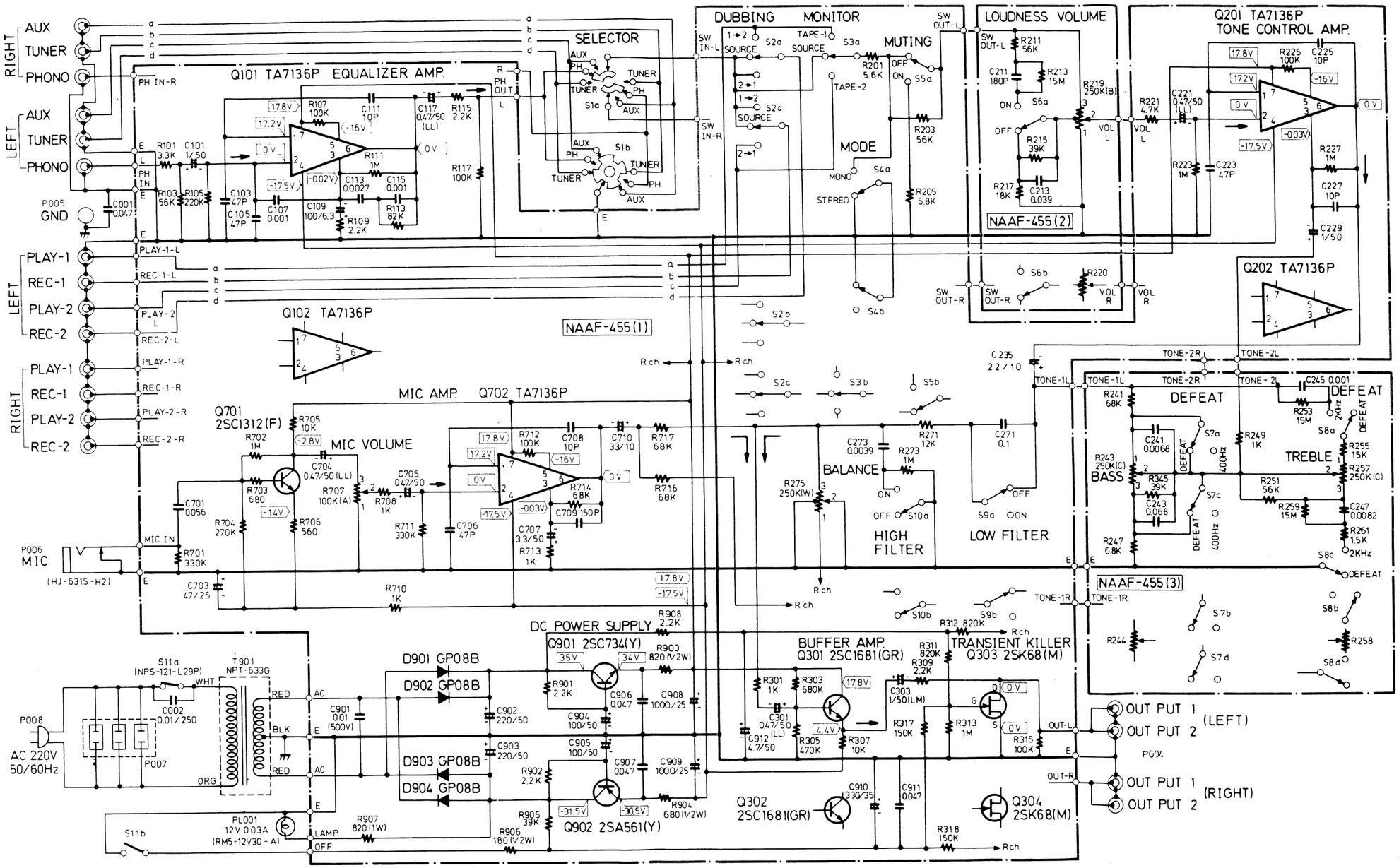
TONE CONTROL CIRCUIT PC BOARD — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Capacitor	
C243, C244	374126835	0.068μF, 50V, DE
	Variable resistor	
R243, R244	5104030	N16RGC250KC35, Bass control
R257, R258	5104030	N16RGC250KC35, Treble control
	Switches	
S7, S8	25040027	NLS-142-2715-L05, Tone defeat

P—8000
M—8000

SCHEMATIC DIAGRAM

MODEL P-8000



Q101 Q102 Q201 Q202 Q702 TA7136P

Q701 2SC1312(F)

Q901 2SC734(Y) Q902 2SA561(Y) Q301 Q302 2SC1681(GR)

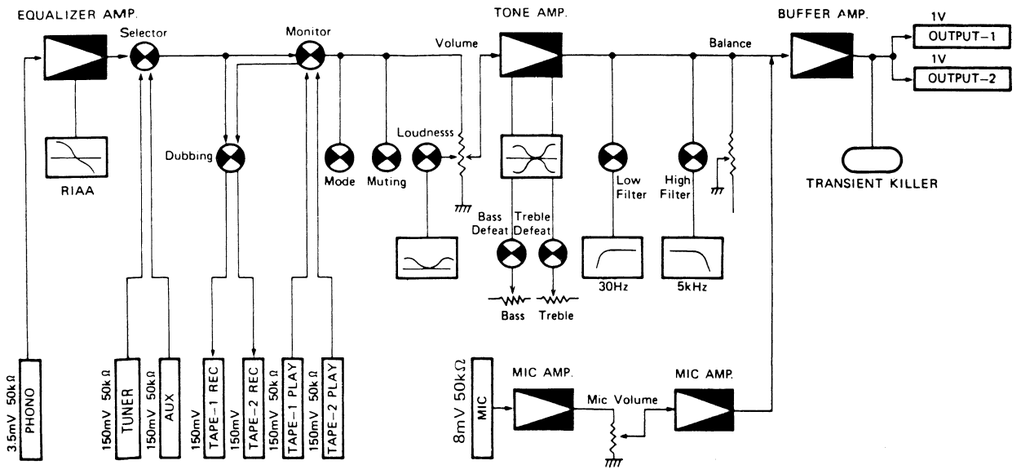
Q303 Q304 2SK68(M)

NOTES:
- ALL RESISTORS ARE IN OHMS 1/4WATTS, UNLESS OTHERWISE NOTED.
- ALL CAPACITORS ARE IN μF 50WV UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN μF/WV.
- VOLTAGE ARE MEASURED WITH DC VOLT-METER(20KΩ/V)(NO INPUT SIGNAL).
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

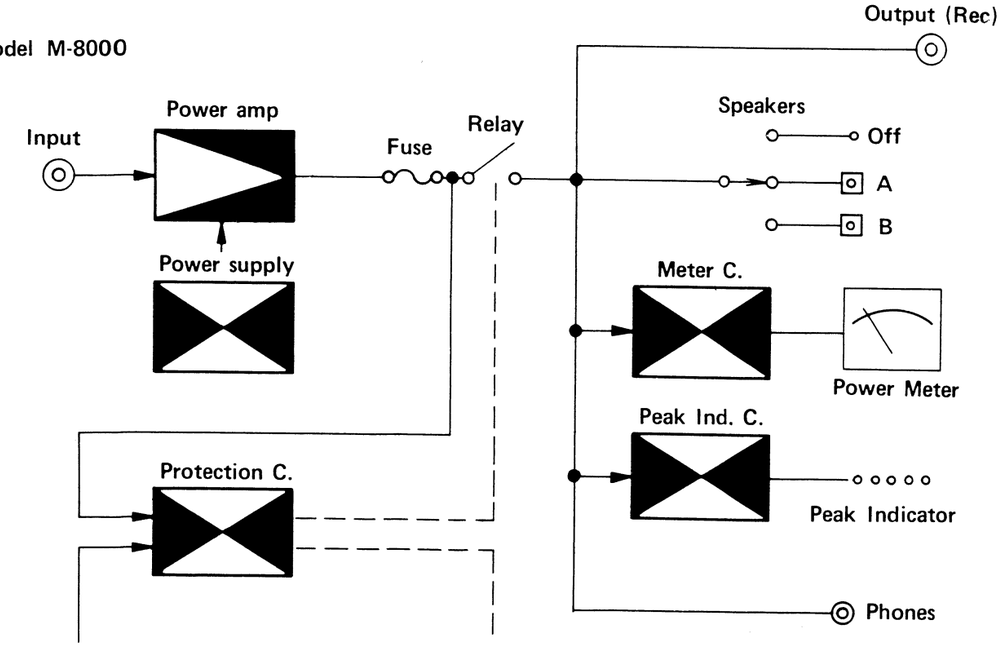
S1	SELECTOR	AUX [PH] TUNER	S7	DEFEAT	[DEFEAT] 400Hz
S2	DUBBING	1→2 [SOURCE] 2→1	S8	DEFEAT	[DEFEAT] 2KHz
S3	MONITOR	TAPE-1 [SOURCE] TAPE-2	S9	LOW FILTER	[OFF] 30Hz
S4	MODE	[STEREO] MONO	S10	HIGH FILTER	[OFF] 5KHz
S5	MUTING	[OFF] -20dB	S11	POWER	[ON] OFF
S6	LOUDNESS	[OFF] ON			

BLOCK DIAGRAM

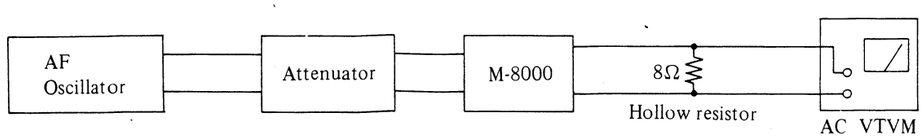
Model P-8000



Model M-8000



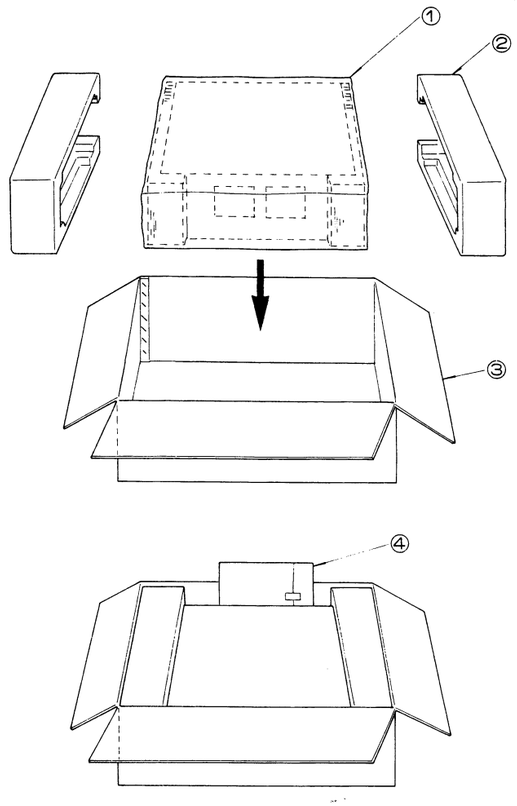
OUTPUT INDICATOR METER ADJUSTMENT



1. Set the AF oscillator to 1 kHz.
2. Adjust the output voltage to 2.8V with the attenuator.
3. Adjust the semi-fixed resistor of R105 (R106) until the VU meter pointer deflects to the 1W mark on the meter.

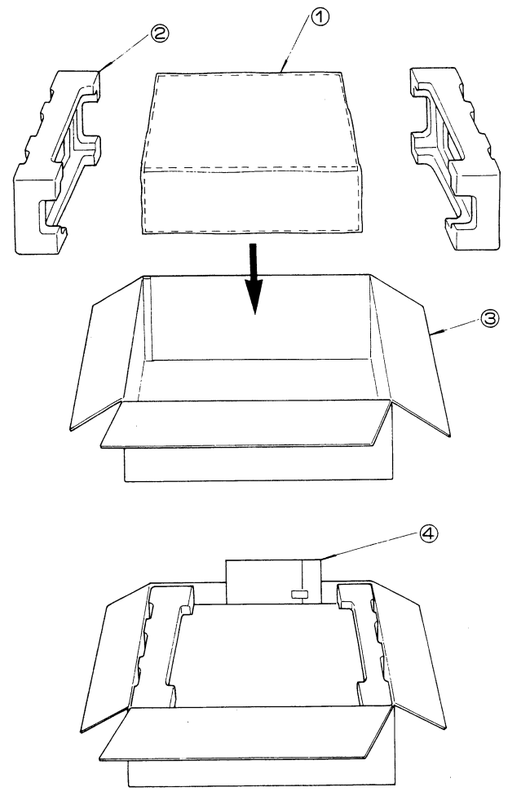
PACKING PROCEDURES

Model M-8000



REF. NO.	PARTS NO.	DESCRIPTION
1	29095016	670 x 1,000mm, Protection sheet
2	29090251	Pad
3	29050211	Carton box
4	29100006	350 x 250mm, Poly bag
	29340291-1	Instruction manual
	253074	Connection cord
	29365005-2	Warranty card (G)

Model P-8000



REF. NO.	PARTS NO.	DESCRIPTION
1	2905016	670 x 1,000mm, Protection sheet
2	29090124A	Pad
3	29050212	Carton box
4	29100005	220 x 330mm, Poly bag
	29340290-1	Instruction manual
	29365005-2	Warranty card (G)

Note: (G): Only Germany model

ONKYO CORPORATION
International Division: No. 24 Mori Bldg., 23-5, 3-chome, Nishi-Shinbashi, Minato-ku, Tokyo, Japan
Telex: 2423551 ONKYO J. Phone: 03-432-6981

ONKYO U.S.A. CORPORATION
Eastern Office
42-07 20th Avenue, Long Island City, New York 11105, U.S.A. Phone: (212) 728-4639
Midwest Office
935 Sivert Drive, Wooddale, Illinois 60191, U.S.A. Phone: (312) 595-2970

ONKYO DEUTSCHLAND GMBH, ELECTRONICS
8034 München-Germering, Industriestrasse 18, West Germany. Telex: 521726 Telefon: (089)-84-5041

I904 Printed in Japan